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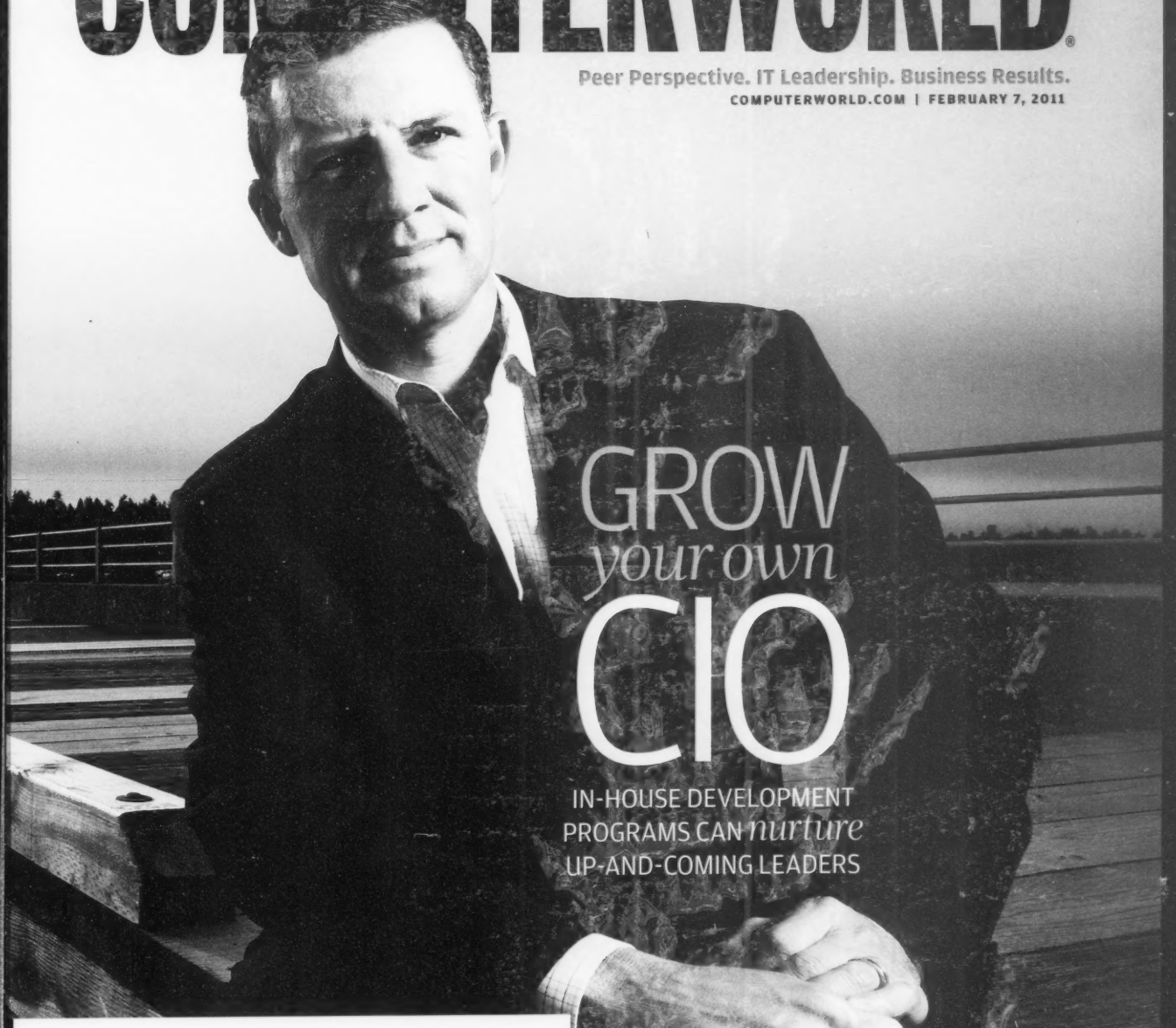

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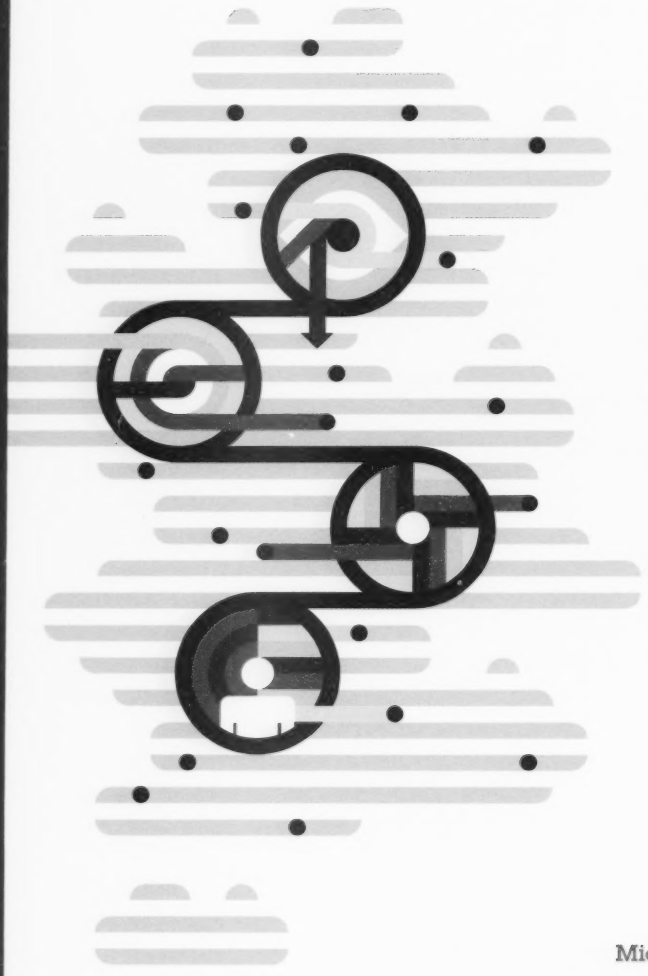

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> **It's about having people feel a real sense of investment in their career.**
>
> KEVIN HART, CIO, CLEARWIRE COMMUNICATIONS LLC, IN "GROW YOUR OWN CIO," PAGE 14

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LETTER TO THE EDITOR

A Free Market, Not Government, Drives U.S. Innovation

If Patrick Thibodeau's analysis is to be believed, the U.S. reached its dominant position in tech primarily through government support, and it will take more of the same to maintain superiority over China ["How China Will Eat the U.S.'s Tech Lunch," Back Page, Dec. 6, 2010]. The evidence is quite to the contrary. Free enterprise, the profit motive and unfettered markets encouraged people like Bill Gates and Steve Jobs to innovate — and rewarded them for having the best ideas. By positing that a "harshly conservative Congress" will hurt innovation by reducing regulation, and by making a non sequitur argument about clean energy, Mr. Thibodeau exposes what is really behind this — that only he and those who are like-minded are wise enough to direct U.S. tech investment and thereby divert funds from such trivial matters as national defense.

John E. Sircy, *president, Henry A. Petter Supply Co., Paducah, Ky.*

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CLARIFICATION

Bart Perkins' Jan. 10 opinion column, "Disappearing CIOs," implied that there is a current trend for large corporations to do away with the CIO position, but the evidence does not support the existence of such a trend.

CORRECTION

A photo caption in the News Analysis section of the July 12, 2010, issue of Computerworld incorrectly identified the Indiana state capitol building as Indianapolis City Hall.

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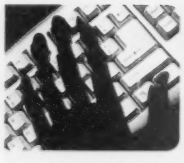

When Trusted IT People Go Bad

One rogue IT employee can do more damage than an army of hackers. Here's how three companies could have better protected themselves. **computerworld.com/s/article/9204581**

2011: Year of the Desktop App Store?

Apple's Mac App Store is only the latest effort to make finding and installing software on your computer as easy as it is on your smartphone. **computerworld.com/s/article/9205878**

Three Personal VPNs Offer Safer Wi-Fi

VPNs-for-hire can secure your laptop at public hot spots. **computerworld.com/s/article/9205401**

Ongoing Coverage on Egypt

Keep up with the latest news about the turmoil in Egypt from a tech perspective. **http://cwrld.us/EgyptCoverage**

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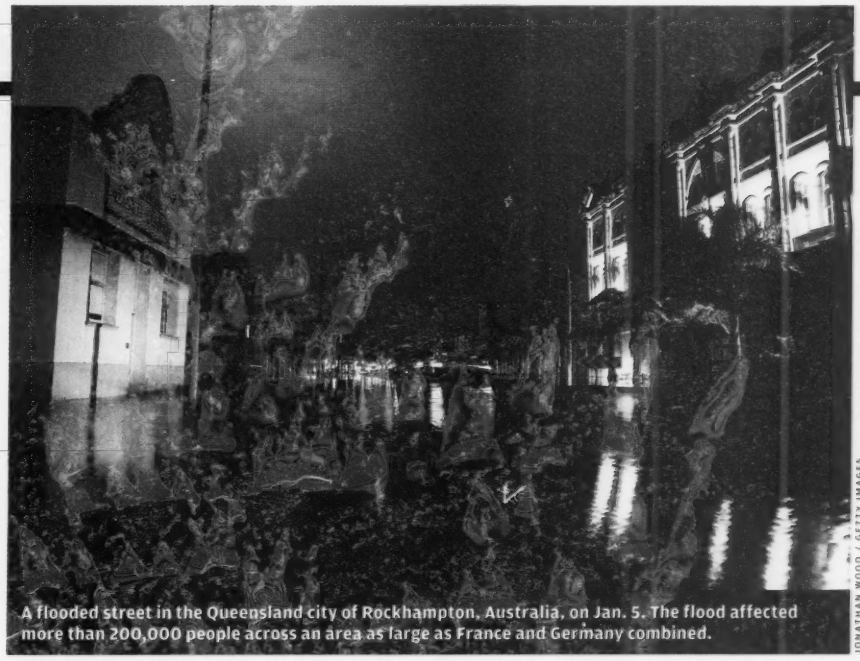

JONATHAN WOOD / GETTY IMAGES

A flooded street in the Queensland city of Rockhampton, Australia, on Jan. 5. The flood affected more than 200,000 people across an area as large as France and Germany combined.

DISASTER RECOVERY

Tech Staffers Help Aussie Flood Victims

AUSTRALIA'S IT community has banded together to donate surplus computer equipment to schools and small businesses affected by last month's flooding in the state of Queensland.

The Queensland IT Flood Relief program was established by Datacom Group Ltd. employee Lewis Benge, who saw the potential for one company's IT trash to become treasure for Queenslanders who had lost everything in the raging waters.

"I was sitting in my office and staring at a whole bunch of computers that were just about to be chucked out," Benge said. "I was thinking, all of these guys in Queensland have had their computers literally washed down the river, and we could help them out."

After the news of Benge's donations went viral on Twitter, he established a Web site (*www.qlditrelief.org*) to streamline the donation process.

So far, organizations have pledged PCs, Macs, printers and multifunction devices, and networking equipment, Benge said. (All donated equipment will be refurbished before delivery.) With donations streaming in, he said, the relief group now needs logistics equipment, such as palettes, to help transport the goods to Brisbane, Queensland's capital.

Datacom also is seeking IT professionals who can volunteer to help clean, repair or rebuild flooded equipment. The Queensland University of Technology is providing assistance for the project, with staff and students pledging their time as volunteers.

– Lisa Banks, Computerworld Australia

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STEAL THIS IDEA

NYC Provides Online Forum For Staff Ideas

New York City has set up a virtual suggestion box, called IdeaMarket, where city employees can offer their ideas about how to improve operations and save money.

Where IdeaMarket differs from the typical suggestion box is that the employees themselves can vote on which ideas they feel are best, and post comments about how to improve the ideas.

The city's management, in turn, will consider the highest-ranked suggestions for possible implementation. Even as a small pilot project, the IdeaMarket has generated some ideas that have already been adopted, including a suggestion to invest in videoconferencing to cut down on intracity travel.

Pleasanton, Calif.-based Spigit Inc. provides the collaborative filtering software for IdeaMarket as a hosted service.

New York Mayor Michael Bloomberg, in his recent State of the City address, praised the project and suggested that he might open the service to New York residents as well. "This kind of open call for ideas – or 'crowdsourcing,' as it's called – has helped cutting-edge companies like Facebook and Netflix improve services and save money," he said. "And with more than 8.4 million people in our crowd, imagine what we can come up with."

– JOAB JACKSON, IDG NEWS SERVICE

BETWEEN THE LINES
By John Klossner

WASHINGTON WATCH

Tax Law May Accelerate IT Purchases

A **SO-CALLED 100%** bonus depreciation tax benefit approved by the U.S. Congress in December may encourage IT managers to buy new equipment before the tax break expires at the end of this year.

The tax benefit, part of Congress' tax-cut bill, was made retroactive to Sept. 8, the day President Barack Obama pitched the idea as a quick economic stimulus.

Greg Rosica, a tax partner at Ernst & Young LLP, said it normally takes up to five years to realize the full tax benefits from depreciation on new equipment, such as servers. But the 100% bonus depreciation allows a company to take the entire benefit in the first year.

The amount of the tax benefit depends on the type of business and its tax rate. For instance, a business that pays the top corporate tax rate of 35% and spends $100,000 on new equipment can reduce its tax bill in the current year by $35,000, Rosica said.

There's no cap on the amount of equipment that can be depreciated, but it must be new.

Frank Scavo, president of research firm Computer Economics Inc., said the tax change will affect the timing of IT purchases. "Buyers who are looking out 18 months now may move acquisitions into 2011 to take advantage of the accelerated depreciation," he said.

The tax benefit's relatively short window "could create a mini-boom in new equipment purchases, perhaps even [leading to] some shortages of key components," said Scavo.

The flip side of this benefit may be a fall-off in new purchases in 2012, he said. "This is the problem with trying to fine-tune tax treatment; there are almost always unintended consequences," said Scavo.

Howard Hammer, a principal at accounting firm Fiske & Co., said the tax benefit is "going to have a tremendous effect" on buying. "Medium and large corporations have been stockpiling cash for quite a while, and I think now they are going to jump on it," he said.

– *Patrick Thibodeau*

Micro Burst

HOW BIG IS IT?

Amazon's S3 cloud storage service housed

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SOURCE: AMAZON WEB SERVICES BLOG POST, JANUARY 2011

SECURITY MONITOR

Hackers Revisit Old Telnet Port For IT Attacks

Hackers are increasingly using the old Telnet remote-access protocol to attack corporate servers, according to a report released last month by Akamai Technologies Inc.

The vendor's quarterly report on global Internet traffic said that 10% of attacks that came from mobile networks during 2010's third quarter were directed at Port 23, which Telnet uses. That marks a somewhat unusual spike for the aging protocol.

Telnet has been gradually replaced by Secure Shell, or SSH, as a means of accessing servers remotely. Administrators are generally advised to disable Telnet if the protocol isn't being used, in order to prevent attacks targeting it, but some forget to do so.

The report said the attacks are probably coming from malware-infected PCs connecting to wireless networks, not from mobile devices.

Telnet's Port 23 was "overwhelmingly the top targeted port for attacks" in Egypt, Peru and Turkey, Akamai's report said.

Akamai found that Port 445, commonly used for Microsoft products, was the most targeted port, but the attacks on the port have declined since the Conficker worm attacked it in 2009.

– JEREMY KIRK,
IDG NEWS SERVICE

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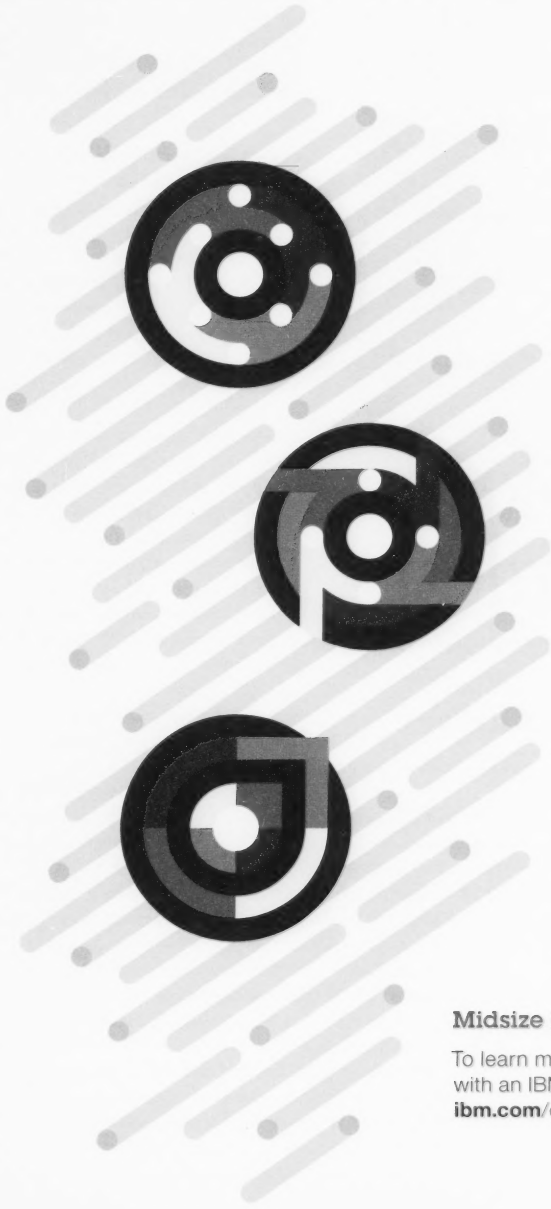

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> **I think the biggest risk in IT** is we tend to define ourselves with the technology we like, rather than aligning ourselves with the strategies the business needs.
>
> AL WILLIAMS, IT DIRECTOR, PENNSYLVANIA STATE UNIVERSITY

Downturn Hits Older Tech Workers Hardest

IT pros who are over 55, especially women, face long-term joblessness. Cloud and healthcare expertise are pluses these days. By Patrick Thibodeau and Sharon Machlis

UNEMPLOYMENT RATES for older IT professionals have increased faster than they did for younger tech workers since the recession hit some three years ago, according to new U.S. government data.

The numbers confirm what 30-year IT veteran Maribeth McIntyre had already suspected.

Until McIntyre lost a job in 2007 at age 55, finding IT work had "always been as easy as can be," she said. When she became unemployed, she quickly started looking for another job as a business system analyst and project manager.

The recession hadn't hit yet, and McIntyre initially had numerous interviews that seemed promising. Nonetheless, it took eight months to land a consulting job. "I was beginning to suspect it was an age problem," she said.

The recession ended McIntyre's consulting job. She found short-term contract work in 2009 and then landed a six-month assignment that recently ended.

The latest data from the U.S. Bureau of Labor Statistics shows that overall unemployment in "computer and mathematical occupations" jumped from 6% to 8.4% between 2009 and 2010. For women 55 and older pursuing those jobs, the unemployment rate hit 9.4% in 2010, 1.6 percentage points higher than the rate for men in the same age group.

At the same time, the unemployment rate for computer and math workers ages 25 to 54 dropped from 5.1% in 2009 to 4.5% in 2010. (See chart at *http://bit.ly/eBwWJ3*.)

Four years ago, before the economic downturn, the jobless rate for computer and math professionals was 3.5% for men 55 and over and 4.2% for women in that age group. The overall rate for people between the ages of 25 and 54 was just 1.7%.

Nanci Schimizzi, president of the mentoring and advocacy group Women in Technology, said jobless women 50 or older generally "remain unemployed for years, to the point where many have more or less given up" or changed careers.

Schimizzi doesn't expect much improvement in full-time job prospects for older IT workers even as the economy starts to grow. "I think full-time positions are going to be staffed from the younger workforce," she said.

Al Williams, a director of IT at Pennsylvania State University and vice president of independent IBM user group Share, said workers over 50 may concern corporate hiring managers because they might resist change and generally command higher salaries than younger people. "I think the biggest risk in IT is we tend to define ourselves with the technology we like, rather than aligning ourselves with the strategies the business needs," said Williams.

Todd Thibodeaux, president and CEO of the Computing Technology Industry Association, said that older workers with specific skills, mostly in cloud computing and electronic health systems, are still in demand.

The age issue is likely to gain importance because of the sheer size of the baby boom generation — people born between 1946 and 1964, who make up more than 25% of the U.S. population. A 2010 federal government study found that 60% of the IT workforce in 2008 was made up of people between 45 and 63 years of age. ◆

BRIAN SNYDER / REUTERS

Protesters began demonstrating in Cairo and other Egyptian cities on Jan. 25.

Egypt 'Net Shutdown: Wake-up Call for CIOs

Analysts say any government could shut down Internet access in a national emergency, so IT execs need a plan of action. By Patrick Thibodeau and Juan Carlos Perez

EGYPT'S CRACKDOWN on Internet use amid huge anti-government protests should serve as a warning that CIOs around the world must create contingency plans to deal with the potential shutdown of critical infrastructure.

The Internet was mostly inaccessible to Egyptians for about five days. Citizens began reporting the widespread return of online connections last Tuesday.

Virtually any government in the world can temporarily nationalize and control critical infrastructure, which includes mobile networks, fixed-line telecommunications and Internet backbone systems, during natural disasters, terrorist attacks or any other national emergency, said Eric Paulak, an analyst at Gartner Inc.

"This scenario isn't so far-fetched," he said. "It's just that you don't necessarily hear about it."

The potential loss of Internet access is especially serious to the many IT organizations that are turning to cloud-based systems to run key corporate or government applications, said Michael Osterman, an analyst at Osterman Research Inc. "If organizations are reliant on cloud-based services, this would be a critical problem."

"Companies doing business in any country should assess potential loss of Internet access as part of their risk management strategy and factor it into the cost of doing business," said Rebecca Wettemann, an analyst at Nucleus Research Inc.

The analysts suggested creating offline capabilities for cloud-based systems and providing key users with access to backup satellite-based phones and Internet access during emergencies.

IT executives based in Egypt said the widespread protests and the government's response disrupted the country's growing tech operations.

Yahia Megahed, vice president and supervisor of the Egyptian branch of Symbyo Technologies Inc., a U.S.-based IT services firm, said some workers there were able to access the Internet via proxies, but most had no recourse. The shutdown "definitely affected" the business, he added.

The Egyptian government has been aggressively selling the country as an outsourcing destination.

Hewlett-Packard Co., one of the 120 companies located in Cairo's eight-year-old Smart Village IT office park, told its workers to stay home during the protests. Microsoft Corp., which also has an office in the park, said in the midst of the protests that much of its call center activities run from Egypt had "been largely distributed to other locations."

IBM, Oracle, Indian outsourcer Wipro and other top companies have also set up shop in Smart Village.

"The country has invested millions to promote its capabilities — and now that investment is looking under threat," said Phil Fersht, CEO and head of research at HfS Research, an outsourcing research and advisory firm.

Megahed, though, is confident that Egypt will remain attractive to high-tech firms. "Egypt is considered, despite what happened this week, to be a stable country," he said. ◆

Perez *is a reporter for the IDG News Service.* **Martyn Williams** *of the IDG News Service and* **Gregg Keizer** *contributed to this story.*

> **The country has invested millions** to promote its capabilities – and now that investment is looking under threat. – PHIL FERSHT, CEO, HFS RESEARCH

MOHAMED ABD EL GHANY / REUTERS

THE Grill

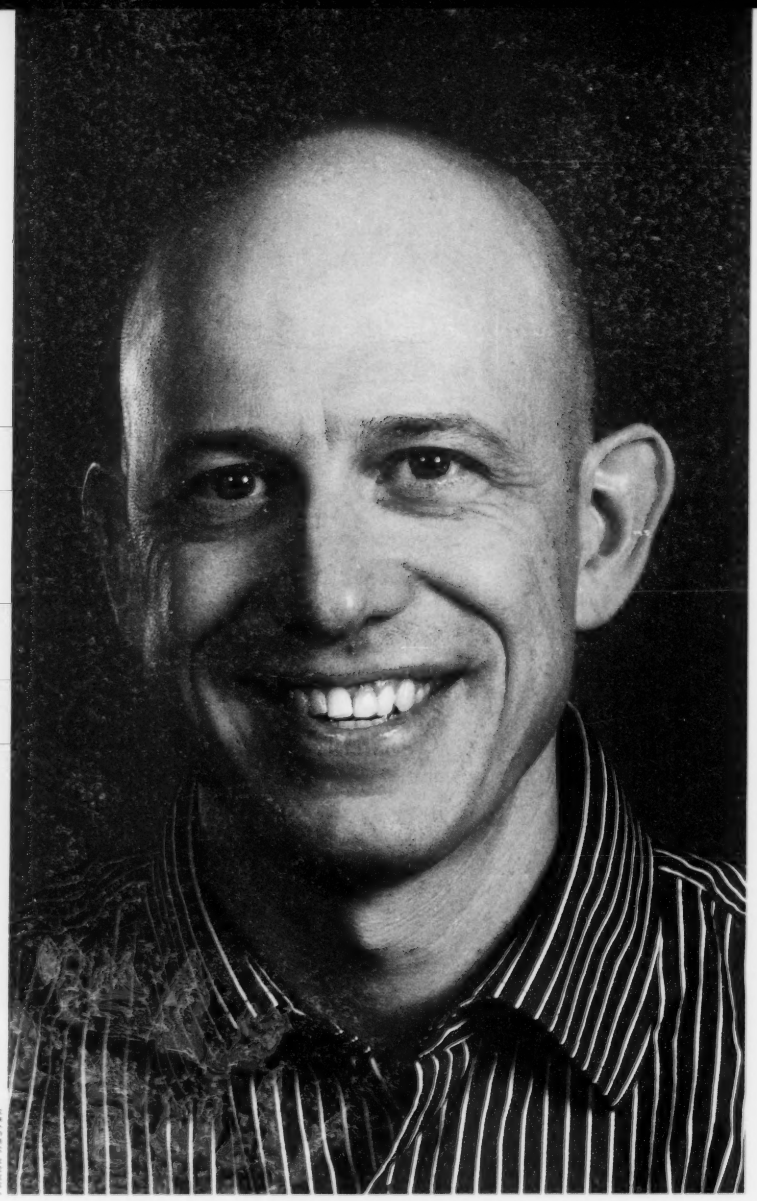
David Edelstein

This tech leader is harnessing the power of mobile phones to fight poverty.

What electronics do you take with you when you travel? I carry a very basic unlocked phone, the $15 kind, and an unlocked Android phone, so I'm always using the local service that's available to get the local user experience.

What's your biggest frustration with technology? That it is often perceived as a solution unto itself instead of an enabler with huge potential.

If you had to choose another career, what would you do? I would be a kayak guide in the summer and a mountain guide in the winter. That comes from skiing two days ago with my daughter.



FRANK HUSTER

DAVID EDELSTEIN *is using technology to battle poverty, and his weapon of choice is the mobile phone. Edelstein is director of the Grameen Technology Center and vice president of technology programs at Grameen Foundation, a Washington-based nonprofit that supports microfinance practitioners worldwide. Edelstein holds the top technology job, guiding the foundation's efforts to create innovative and sustainable technology approaches to benefit the world's poor.*

Before joining Grameen in 2007, Edelstein worked at Microsoft Corp. designing business models to provide affordable technology products for people in emerging markets. He also worked with consulting firm McKinsey & Co. in Brazil, where he developed business strategies tailored to the needs of consumers and businesses in developing countries.

What's the primary focus of your job? I lead the Grameen Technology Center and am responsible for the success of all technology programs at Grameen Foundation. This work is anchored in the use of mobile phones to improve lives and livelihoods — enabling the poor to bring themselves out of poverty using technology that is increasingly

Continued on page 10

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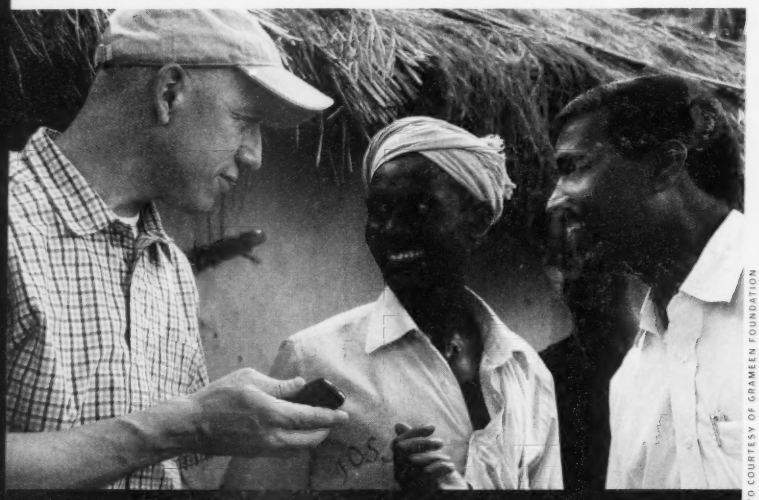

David Edelstein talks with villagers in Patna, India.

PHOTO COURTESY OF GRAMEEN FOUNDATION

> **There are more than 5 billion phones in the world,** and such a huge percentage are in the hands of people in emerging markets, so the potential is there, but it has not yet been realized.

Continued from page 8

within their reach. We also have a strong focus on how technology can benefit microfinance institutions and have developed management software called Mifos tailored to the specific needs of these institutions. I work closely with teams based in Seattle, Uganda, Ghana, Kenya and Indonesia to direct these efforts.

How do you define or measure success for you and your team? At the end of the day, success is about having a measurable improvement on people's lives. That's a long-term outcome we look for. The intermediate stages are identifying where there are market gaps, where information services could have a meaningful impact on people's lives but for one reason or another they're not being provided. And it's identifying potential solutions to address those gaps using basic mobile phones, understanding what content could be delivered, and developing models that are self-sustaining from an economic perspective.

What are the biggest obstacles in getting working technology into the poor regions you serve? The beauty of it is that there are over 5 billion mobile phones in the world today, and almost 80% are in emerging markets. And what's impressive about that number besides the magnitude is that unlike in the U.S., there's a lot of sharing [of mobile phones] in emerging markets. So the challenges aren't around putting technology in their hands. The challenges are more around developing services that can be easily used and [are] affordable. There are high illiteracy rates and multiple languages, so addressing those are also challenges. And cost can be a challenge. In Uganda, for example, government-imposed taxes on minutes and handsets are very high.

What are your strategies for overcoming such barriers? The first is the trusted intermediary model. We realized early on that information alone is not sufficient to change people's behavior, which is how we achieve impact. What's required is having a trusted member of the community serve in an intermediary role where they know how to discover the information, how to use the information and how to contextualize that information. We've developed networks of trusted intermediaries, such as community [agricultural] knowledge workers in Uganda, community health nurses in Ghana or a network of entrepreneurs who use their mobile phones in Indonesia.

And then the second is to use the phone for voice services as well, which is sort of obvious, but not always. What we found, especially to overcome some of the challenges with illiteracy, is that many people prefer to receive voice messages. They have the option of receiving text messages or voice messages in their native language, and 90% of the time they prefer to have voice messages.

You've used the term "information poverty." What do you mean by that? It's that inability to have information at your fingertips that will help you improve your life or livelihood. The phone really changes that dynamic to the extent that information services can be delivered over the phone. It makes it so that poverty and information flows can be addressed.

You once said that the mobile phone has the potential to level the playing field in terms of access to information. Are we there yet? We're just skimming the surface. I think a lot of progress has been made in the last two to three years, but when you look at the number of concepts that have scaled, there are really very few. There are more than 5 billion phones in the world, and such a huge percentage are in the hands of people in emerging markets, so the potential is there, but it has not yet been realized.

What can traditional IT shops and tech companies learn from your work? That there's the opportunity to develop for what's commonly called the base of the socioeconomic pyramid. There's a very large market if you can tailor products to meet the market needs.

— Interview by Computerworld *contributing writer*
Mary K. Pratt *(marykpratt@verizon.net)*

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OPINION

THORNTON A. MAY

Tom Brady, the Patriots And IT Expectations

A FEW WEEKS AGO, football fans in New England watched in horror as quarterback Tom Brady and the Patriots suffered an unattractive loss to their trash-talking divisional rivals, the New York Jets. The next day, sports fans throughout the region were numb.

The fact that a team that had held so much promise, had consumed so much of the community's time and attention and had been lavished with money had failed to deliver — *again* — reminded me of something else. I'm sorry to say, it was IT.

In every discipline, expectations and their management have always been part of the leadership tool kit. Yet not many executives and very few football fans have really studied the mechanisms of where, when and how expectations get set. A big contributor is historical performance.

Experts in international development observe that for the past 20 years, there's been talk about Brazil's bright future — a time of prosperity that is always just around the corner but never arrives. As a result, when we hear talk today about Brazil's prospects, our expectations are greatly lowered.

Conversely, the Patriots have, in a reasonably compressed time span, won three Super Bowls. In a league that aggressively, outspokenly and very effectively creates rules and regulations designed specifically to prevent any one team from dominating the sport, is it rational to expect the Patriots to win the Super Bowl every year? Perhaps not, but the fans' expectations are nonetheless heightened by a recent record of great success.

Just as the Patriots have their troika of championships, enterprise IT has its trifecta of underperformance — ERP, the dot-com push and Y2K.

Management teams still vividly remember that during the late '90s, IT swore that if the enterprise did not deploy an intergalactic ERP backbone, the wheels were going to fall off. Yes, it would require a multimillion-dollar investment, but we guaranteed that it would pay off. Instead, many enterprises ended up pouring as much as twice the budgeted amount down a sinkhole.

Next came the Web. Fearing that incumbent markets would be Amazonized, we heavily invested in e-commerce platforms while webifying the enterprise. Researchers place the total price tag on the Internet buildout at roughly $2.2 trillion.

At about the same time, we fed the Y2K panic. Executives were given a choice: They could load up on tuna fish, K rations and peanut butter and move to the hills, or they could remediate every piece of software code in the joint. Yet again, it appeared as if IT was holding a gun to the head of the organization and saying, "Spend more money."

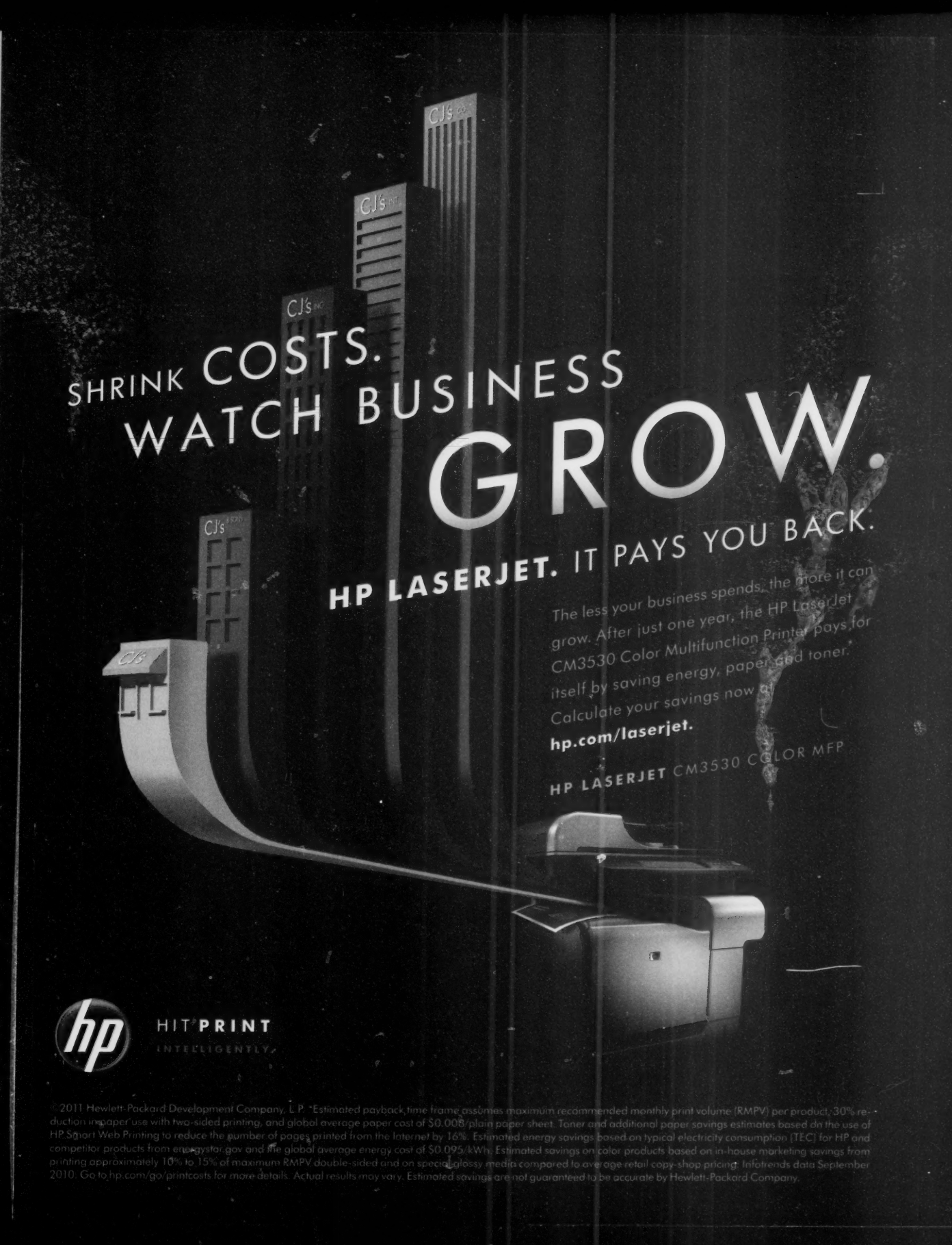
This IT track record — which I have rendered very nonsympathetically — may be part of the reason that for the first decade of the new millennium, IT was in many cases benched and had to focus on cost reductions rather than top-line revenue generation, and on consolidation instead of innovation.

And so IT was sidelined just as a golden age of innovation in consumer electronics. Enterprise employees can't help but notice the yawning gap between the experience of using their consumer tech and the experience of using the older systems that run on their computers at work.

By next year, the fans will have forgotten the Patriots' ugly loss and will expect greatness again. As for IT, I'm not certain that it has a lot of fans, or that those it has will remain loyal. Enterprise IT is a franchise in trouble. It's time for a turnaround. ◆

The fact that a team that had so much promise had failed to deliver – again – reminded me of something: IT.

Thornton A. May is the author of *The New Know: Innovation Powered by Analytics* and executive director of the IT Leadership Academy at Florida State College at Jacksonville. You can contact him at thorntonamay@aol.com.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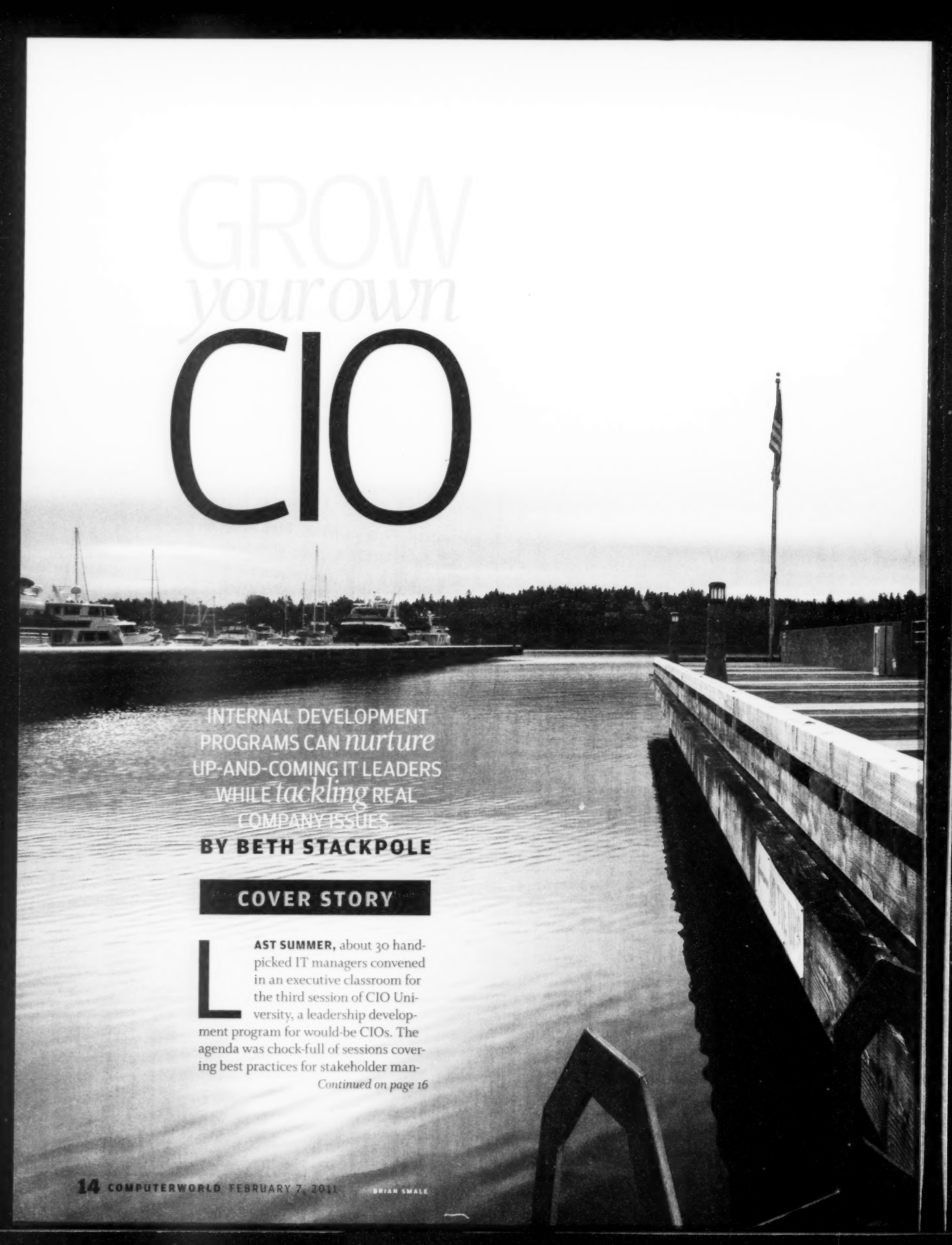


INTERNAL DEVELOPMENT PROGRAMS CAN *nurture* UP-AND-COMING IT LEADERS WHILE *tackling* REAL COMPANY ISSUES.

BY BETH STACKPOLE

COVER STORY

LAST SUMMER, about 30 hand-picked IT managers convened in an executive classroom for the third session of CIO University, a leadership development program for would-be CIOs. The agenda was chock-full of sessions covering best practices for stakeholder man-

Continued on page 16

BRIAN SMALE

Dr. Kevin Kelly conceived the CIO University program at Clearwire Communications.

Continued from page 14

agement along with role-playing exercises to explore the Thomas-Kilmann model of conflict resolution. Guest speakers included C-level executives as well as former attendees who had gone on to become CIOs. A post-session happy hour and dinner gave participants a chance to network, exchange insights and simply blow off steam.

It might sound like your typical leadership development seminar, but CIO University stands apart in several ways.

For one thing, the curriculum is fine-tuned to specifically meet the needs of IT management. For another, instead of being sponsored by a university or an IT trade association, with attendance open to IT execs from multiple organizations, this leadership program was homegrown by a single company for its high-performing IT staffers only.

You can send someone to California for a week and pay $10,000 ... but the real value comes with having an experience as a team.

KEVIN HART, CIO, CLEARWIRE COMMUNICATIONS LLC

Conceived and implemented by Kevin Hart, CIO at Clearwire Communications LLC in Kirkland, Wash., CIO U aims to serve the following three functions: nurture the next generation of IT leaders at the $274.5 million telecommunications upstart; act as a forum wherein employees can work on real management issues relevant to the company; and foster a culture of teamwork among Hart's 300-person IT staff.

Clearwire's CIO U classes are held for a full day once every quarter in rooms on loan from the University of Washington. Participants are given homework assignments in which they're asked to apply improvement initiatives in the workplace. While not every graduate is destined to hold the title of CIO, especially in a company like Clearwire with a relatively small IT staff, Hart says the experience attendees gain is invaluable to their careers and to their employers.

Hart initiated the program in 2006 when he was CIO at Level 3 Communications Inc., a $3.7 billion provider of telecommunications services with more than 1,000 IT staffers, and he took it with him when he joined Clearwire in 2009. (His CIO University is not to be confused with another program of the same name, through which the federal government in partnership with several universities offers graduate-level training in tech leadership.)

To date, Hart's CIO U has turned out more than 130 graduates at Clearwire and at Level 3 Communications. Though nobody has kept formal count, Hart says many graduates have gone on to become CIOs, with a good number planting the seeds for similar IT leadership programs at their new employers.

Hart and others who are engaged in the practice of "growing your own CIO" — including tech execs at Direct Energy and Purdue Pharma LP — contend that there are multiple benefits to conducting IT leadership training internally.

Despite the time and resources required to develop a program in-house, they say, internal training is still far more cost-effective than external programs, a factor that resonates at a time when corporate training budgets remain tight.

In addition, in developing an in-house curriculum, CIOs can tap human resources specialists, top executives and professionals from other areas of the business to tailor a course of study that matches the real-world problems plaguing individuals or the IT organization as a whole.

Internal programs help with recruitment and retention of high-performing IT personnel interested in career advancement, Hart and others say, but beyond that, they foster leadership development on an organizational level, a key benefit to the sponsoring company.

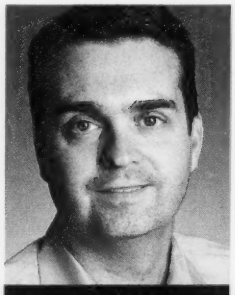
"You can send someone to California for a week and pay $10,000 for the individual experience, but the real value comes with having that experience collectively as a team. The team becomes better able to understand the context of working together and building relationships," says Hart. "It's about having people feel a real sense of investment in their career and in their future."

CLEARWIRE:
Real-World Problem-Solving

Andrew Macaulay, Clearwire's vice president of IT, attended CIO U as a Level 3 Communications employee and then again when he followed Hart to Clearwire. He also had a hand in shaping the current curriculum. He calls it a "hybrid," since it includes input from Clearwire's own top executives, many of whom give presentations during the session, along with contributions from outside experts who are brought in to teach some of the leadership-specific tracks.

Hart and other members of the Clearwire executive team teach the classes and make formal presentations on business challenges and goals while relating their own personal experiences. Outside specialists with credentials in topics such as stakeholder management, conflict resolution and emotional intelligence lead discussions on their areas of expertise.

To Macaulay's mind, CIO U's emphasis on real-world problem-solving with company peers is the real game-changer. "In an external class, you have a person or two from 10 different companies, thus no common examples, and everyone has a different perspective on a different list of problems," Macaulay says. "With this approach, people are already applying what they learn with peers in the classroom. They're problem-solving using these techniques on real issues that can benefit the company."



Andrew Macaulay

As an example, Clearwire's 2009 employee satisfaction survey uncovered dissatisfaction with the quality of communication between rank-and-file IT and upper management. As part of the CIO U curriculum, participants were charged with brainstorming changes to address that problem, and Hart set some specific benchmarks for the team.

By engaging in role-playing and applying conflict resolution techniques covered in their coursework, CIO U attendees came up with recommendations to close the gap, including weekly one-on-one meetings between managers and direct reports to go over

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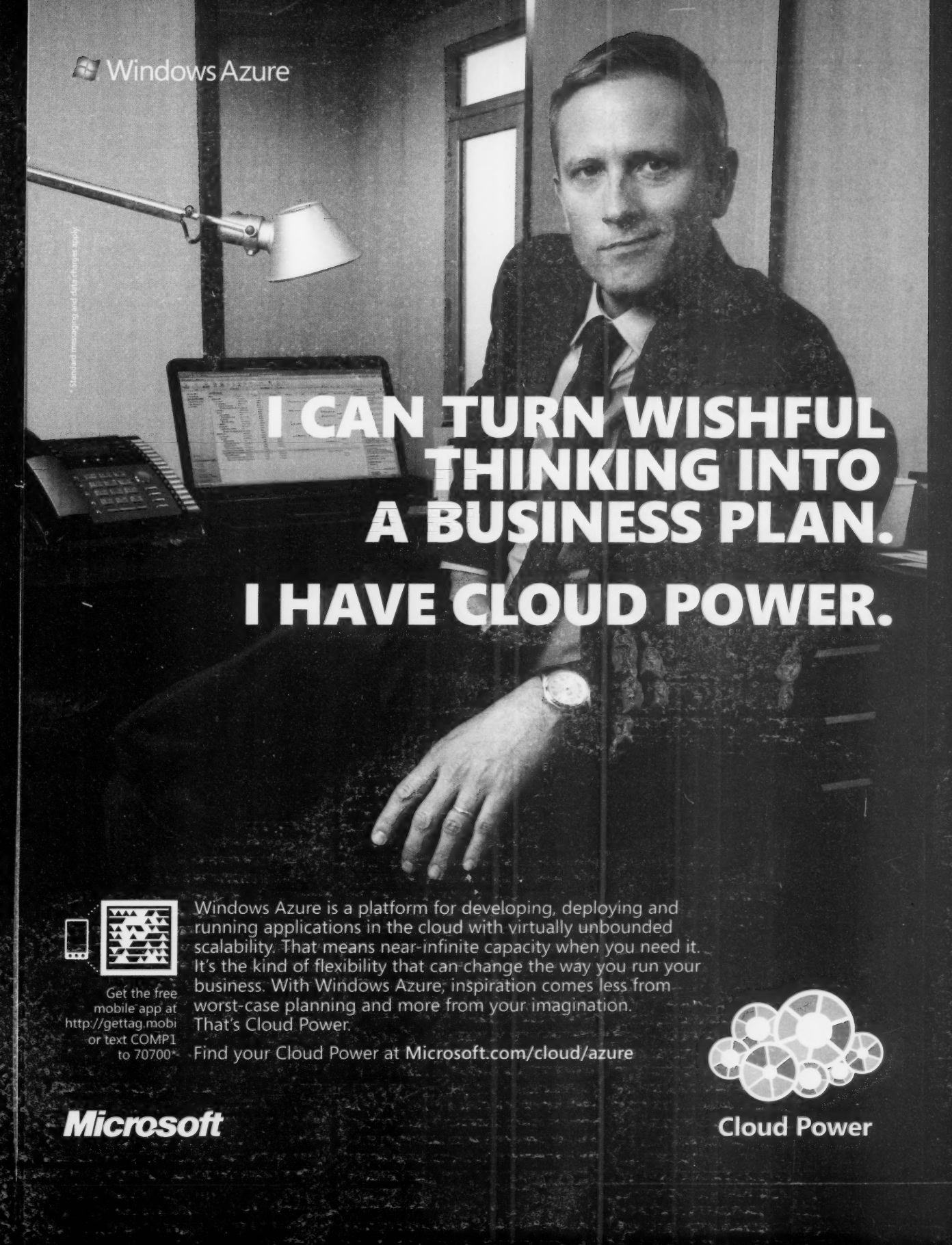
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Continued from page 16

a manager/employee checklist, an "onboarding" program to bring new IT employees up to speed, a directive to tie IT performance goals to company goals, and sponsorship of additional communication forums, like roundtable discussions and newsletters.

When a follow-up survey was conducted six months later to gauge progress, the IT team had made some impressive gains. "If there isn't a benefit to the company, then the whole value proposition falls apart," Hart says.

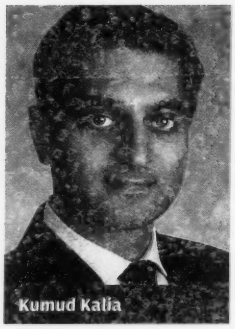
DIRECT ENERGY:
Three Training Levels

Direct Energy, a $9 billion electricity and natural gas utility with operations in several North American markets, offers a three-tier IT leadership development initiative that blends both internal and external resources.

At the junior level, the company recruits from the top engineering schools and then has new hires participate in an intensive, company-run two-year training program. The training includes work toward a range of certifications and rotating assignments in different areas of the business, including stints in non-IT posts and in various locales around the world.

Midlevel IT folks may be selected to participate in a leadership program that was developed by Direct Energy's IT group but is run in conjunction with other companies and outside leadership experts, according to Kumud Kalia, Direct Energy's CIO. Top-level IT execs are encouraged to participate in webinars, attend seminars and enroll in external leadership development programs for a more customized training experience.

Leveraging both internal and external resources makes sense for a company of Direct Energy's size, Kalia says. Although Direct Energy is bigger than Clearwire and maintains a larger IT workforce, Kalia says it would be far too costly, in terms of both money and time, to develop and run such a diverse leadership-training program internally. In addition, he says he doesn't think there are enough high-level IT roles within the company, which employs about 500 IT personnel in all, to justify funding an internally run, CIO-specific program.


Kumud Kalia

Nevertheless, Kalia feels strongly that IT leadership development on any scale is essential for attracting and nurturing top talent. "People don't want to join a company and have a great first year only to keep repeating the great first year for 10 years," Kalia says. "People care about career development. They seek out enhanced scope of responsibility, and if they're not getting it from their employer, they will go elsewhere. We want to make sure we have those things here."

PURDUE PHARMA:
No Faking Internal Training

Purdue Pharma, a $3 billion pharmaceutical company, also champions a mix of internal and external IT leadership training. Each of the Stamford, Conn.-based company's 110 IT employees has an individual development plan, and there are rotating IT job assignments.

Moreover, a handful of high-potential IT managers are selected to participate in an internal executive-coaching program that's run by the CIO in conjunction with human resources, to get exposure to senior management responsibilities. In this program, individuals take a battery of leadership assessment tests and are coached individually by HR professionals and top IT managers to nurture their strengths and improve upon their weaknesses.

Throughout a 12-to-18-month period, participants are formally observed by the CIO, given assessments every three months and take part in sessions where they get feedback from their peers. So far, seven IT employees have gone through the program.

CIO Larry Pickett says an internal program works best on this level because participants can't manipulate the scenarios they encounter, like they could in external leadership programs. "In external programs, it's a case study you're working on, not a real-world example," Pickett explains. "Our training is based on actual observation in the workplace, and you can't fake it." ◆

Stackpole, *a frequent* Computerworld *contributor, has reported on business and technology for more than 20 years.*

ORDER *the* COMBO: INTERNAL **AND** EXTERNAL TRAINING

Is IT leadership development best served by internal training, external resources or a combination of the two?

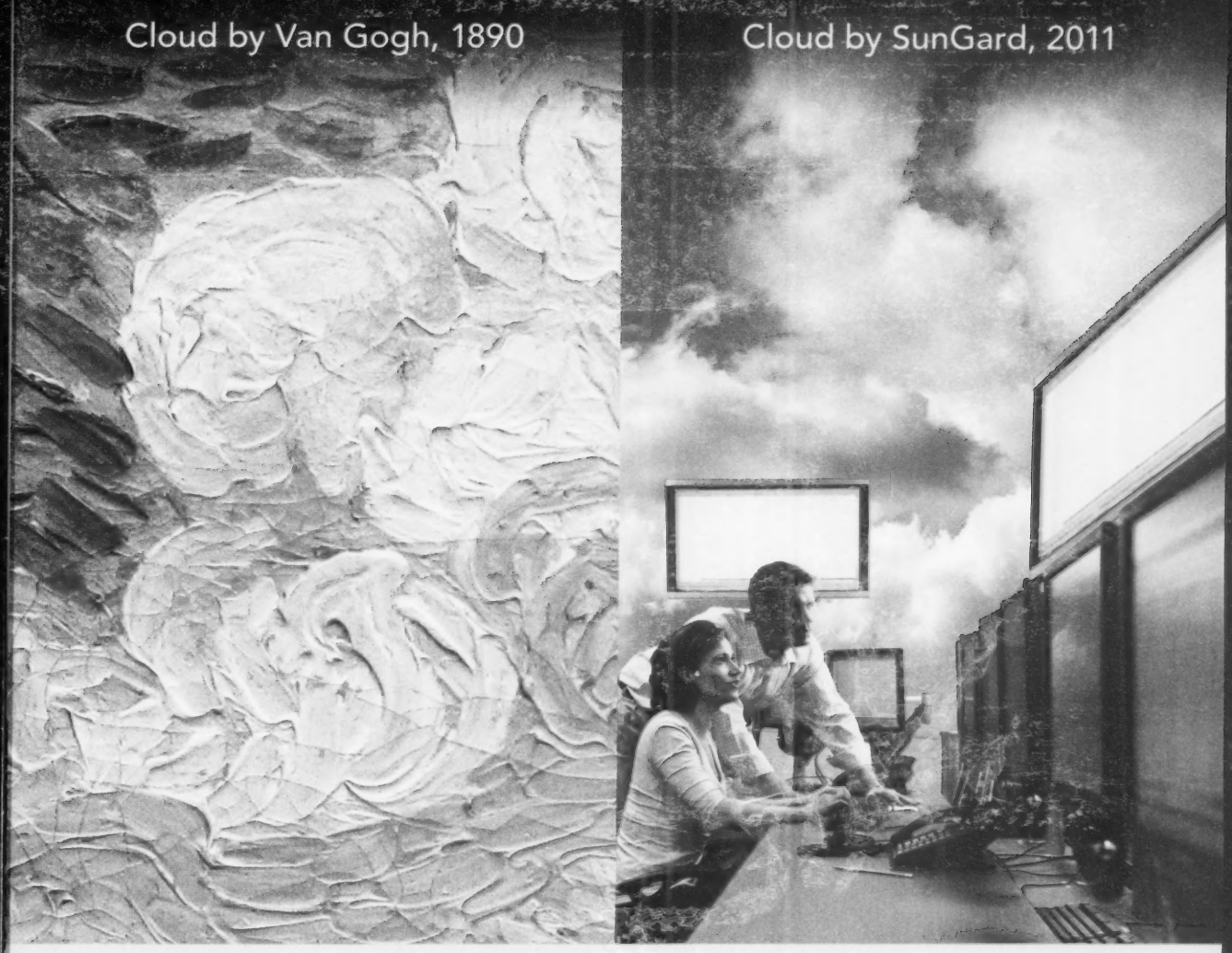
Executive coach Judy Arteche-Carr votes for the combo. Arteche-Carr is a member of the Society for Information Management's Executive Management Council, and she's managing director of Arteche Global Group, a management consulting company that offers personal coaching for C-level executives.

Arteche-Carr says internal programs take into account the dynamics of a company and foster team-building, but they can be limited in scope and lack outside perspectives. External training, on the other hand, provides exposure to the best practices of other companies and offers networking opportunities, but it's not specifically tailored to an individual's or a company's needs.

"You need a combination of programs, because you never know where people are coming from," she explains. "It's all dependent on the company environment and the CIO's resources."

In any case, it's really the content of the program that's critical to developing high-performing IT leaders. The focus should be on soft skills like "influence management," presentation skills and writing, as well as understanding globalization, says Arteche-Carr.

– BETH STACKPOLE



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CONFUSION REIGNS

SOFTWARE LICENSING FOR DESKTOP VIRTUALIZATION IS COMPLEX. EVEN VENDORS STRUGGLE WITH IT. **BY TAM HARBERT**

WHEN DATAPRISE INC., an IT services company, helped a customer with a desktop virtualization project last year, it found itself dealing with desktop virtualization's dirty little secret: No one — including vendors — seems to know how to license the software.

Having run a successful pilot, Dataprise's client wanted to take the next step and deploy 700 virtual desktops, says Chris Sousa, director of infrastructure service at Dataprise. That's when the trouble began. Like many businesses, the customer — a manufactur-

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> **We were trying to be upstanding citizens and not rip anybody off, but we couldn't get definitive answers.**
>
> **CHRIS SOUSA,** DIRECTOR OF INFRASTRUCTURE SERVICE, DATAPRISE INC.

er of fiber-optic cable — had an enterprise agreement with Microsoft Corp., but its IT staff wasn't sure exactly what was covered in a virtualized environment. Apparently, neither was Microsoft, says Sousa, who noted that he called the company repeatedly seeking information.

"We'd get a different answer from a different person on a different day," he says.

In a 2009 study by Info-Tech Research Group Inc., Microsoft Windows licensing was identified as the No. 1 pain point for organizations implementing desktop virtualization, according to Info-Tech analyst John Sloan.

Microsoft claims that it has tried to improve its virtualization pricing policies. Most recently, the company relaxed its licensing rules for virtual desktops and expanded rights to access a given virtual desktop from more than one computer. (See story at right.)

The changes are "a step in the right direction," says Sloan, but he adds that Microsoft "hasn't gone as far as many would like." For example, although the new roaming rights allow users to log into their virtual desktops from devices outside of the corporate firewall, such as home PCs or airport kiosks, the virtual desktop is still licensed to a specific corporate PC. That means a user may not be able to access his virtual desktop from another corporate PC, like one in a branch office, Sloan explains.

Confused yet? Microsoft licensing "is still so complicated that users and even resellers don't understand it," says Barb Goldworm, president and chief analyst at consultancy Focus LLC. Not only are the specific vendor rules confusing, but IT managers also mix up the licensing of the virtualization software (which serves as a connection broker and a virtual desktop running on a back-end hypervisor) and the licensing of the software that actually runs on the desktop (the operating system and applications).

The Vendors' Struggle

But the problem is bigger than just Microsoft. All software vendors are struggling with this issue to some extent. When Citrix Systems Inc. introduced XenDesktop 4, it changed from its traditional model — concurrent licensing — to one license per named user. But customers quickly complained that they needed more flexibility. In some industries, for example, multiple users share the same device.

So Citrix quickly added per-device licensing and brought back concurrent licensing for its Virtual Desktop Infrastructure edition, says Calvin Hsu, director of product marketing at Citrix.

In some cases, IT managers throw up their hands and look for other options. When Michael Goodman discovered that he'd have to buy two licenses for the same Windows operating system — one for a thin client and one for the operating system running on the server — "it really knocked down my payback period on the ROI," he says. That was one of the reasons the vice president and director of information systems and technology at Crescent State Bank in Cary, N.C., skipped thin clients and went with a

MICROSOFT'S POLICY MOVES

Microsoft has tried to improve its licensing policies gradually over the past several years, says Dai Vu, the company's director of virtualization product management. "Licensing and virtualization are inherently complex, and we've actually done a number of things to simplify it," he says. In March 2010, Microsoft announced changes to its virtual desktop licensing policies that went into effect July 1. Here are the two most significant updates:

- **Eased virtual desktop licensing requirements.** Previously, customers had to purchase an additional license, called a Virtual Enterprise Centralized Desktop (VECD) license, to run any Windows desktop operating system as a server-hosted desktop. The VECD cost $23 per device per year for computers covered by Windows Client Software Assurance. For those not covered by SA, the cost was $110 per device per year.

  Now Microsoft has ditched the VECD and includes virtual desktop access rights as a benefit of SA. For computers not covered by SA, Microsoft has created a new license, called the Virtual Desktop Access (VDA) license, which costs $100 per device per year.

  In addition, if you're running the virtual desktop on a thin client rather than on a PC, that also requires a VDA license at $100 per device per year (and this applies to SA customers as well, since thin clients cannot be covered under SA).

- **Liberalized roaming rights.** Previously, Microsoft licenses didn't allow customers to access a specific virtual desktop from anything but their own Windows-licensed corporate PCs. The only way for a user to legally access her virtual desktop from a home PC was to buy a VECD license.

  Now, under Client SA and the new VDA license, customers can access their virtual desktops and Microsoft Office applications hosted on Virtual Desktop Infrastructure technology from other, noncorporate computers.

— TAM HARBERT

A GUIDE TO THE LICENSING MAZE

Given the confusion over software licensing, analysts and industry experts offer the following advice to IT managers embarking on desktop virtualization projects.

- **Understand what you're getting into.** Read your software contracts, and make sure you understand your licensing terms and conditions.
- **Recognize that the benefits of virtualization are long-term.** Include licensing costs in your calculations of the total costs of the virtualization project.
- **Make sure you have a thorough inventory of your gear.** Identify which equipment is licensed for certain types of software and under what conditions. In addition, know what software is being used, how often it's being used, and how many employees are using it.
- **Require the vendors of the applications you plan to virtualize to support your preferred brand of desktop and application virtualization technology.** Although few have stated publicly that they support specific virtualization technology, "we've seen, with some of our larger clients, [that the software vendor] will do a one-off support contract clause with that client and build that support in," says Chris Wolf, an analyst at Gartner Inc.
- **Don't go it alone.** Find a consultant or a reseller that has a good track record of doing desktop virtualization projects similar to yours.

— TAM HARBERT

Pano Logic Inc. client device, which serves as a dumb terminal connected to an operating system that is running on a server in the data center.

In other cases, IT managers simply wing it, making a good-faith effort to pay the proper licensing fees without knowing exactly what licensing fees are required, which is what Sousa's client did. "We were trying to be upstanding citizens and not rip anybody off, but we couldn't get definitive answers," he says.

Complex, Like the Tax Code

Software licensing for virtual desktops is incredibly complex, confusing and, in some cases, prohibitively expensive. "It's like the IRS tax code," says Dave Buchholz, principal engineer at Intel Corp.'s Intel IT unit, who has been running a research project that looks into all aspects of desktop and application virtualization.

The problem is multifaceted. Like with an onion, when you peel away one layer, you reveal another. At its most basic, the problem reflects a fundamental shift in the industry: Software is being divorced from hardware at a faster rate than ever before, mostly because of virtualization. As software vendors deal with this shift, they are experimenting with different approaches. Some still tie the software license to a specific piece of hardware, some are moving to a user-based license, others sell concurrent-user licenses and still others do a mix of all three.

On top of that, there are different flavors of virtualization at the desktop level, such as virtual desktop infrastructure, application virtualization and operating system streaming. And different types of licensing plans can apply to the different flavors. Moreover, there are many different layers of software in any virtualized environment — the operating system, the virtualization software itself, the applications — each of which has its own licensing requirements.

The confusion over licensing of Microsoft products is tripping up small and midsize companies in particular, because they may not have Software Assurance plans, says Sloan. And large enterprises that are covered through SA and enterprise agreements sometimes don't feel that they need to keep track of all of the details, even though they should.

Bill Galinsky, senior vice president of global IT infrastructure at software vendor CA Technologies, started an internal desktop virtualization pilot project in January 2010. So far he has virtualized 500 desktops, and he expects to reach 2,000 of the company's 13,000 employees within a year.

When Galinsky started the pilot, he bought Microsoft's Virtual Enterprise Centralized Desktop licenses for the virtual desktops. But as of July 1, the VECD disappeared, and those rights are now included in the SA program, which for all practical purposes bases licensing on the number of users rather than pieces of hardware, he says. "In our case, our enterprise agreement works out to a ratio of around 1-to-1.27. So

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As soon as we get into other software outside of our normal contracts, [licensing] can get more difficult.

VINCE KELLEN, CIO,
UNIVERSITY OF KENTUCKY

every employee can run 1.27 copies of the operating system and Microsoft Office."

Vince Kellen, CIO at the University of Kentucky, is also facing the pricing conundrum as he considers how to virtualize about 1,000 desktops on campus. "It's a challenge to get the software licensing that you want," he says. But in his case, Microsoft and other big software vendors aren't the problem. Kellen says he's covered under enterprisewide contracts geared toward academic institutions, "but as soon as we get into other software outside of our normal contracts, it can get more difficult."

With some of the university's smaller vendors, especially those selling niche academic and clinical applications and specialized math or statistical software packages, it's "a little harder to work through the contracting," Kellen says.

Over time, he hopes that software vendors can find a less expensive pricing model that is desktop-virtualization-friendly — one that licenses concurrent users instead of specific named users, for instance. "This will be hard for smaller vendors, I think, as larger vendors have a broader portfolio of software products and perhaps business models, which will give them flexibility," Kellen adds.

The whole concept of software licensing is morphing as virtualization grows and consumer electronics invade corporate IT. "As corporate employees start using many different devices — smartphones, laptops, iPads — corporations are asking, 'How many licenses am I going to have to buy?' " says Buchholz. ◆

Harbert *is a Washington, D.C.-based writer specializing in technology, business and public policy. She can be contacted through her Web site, TamHarbert.com.*

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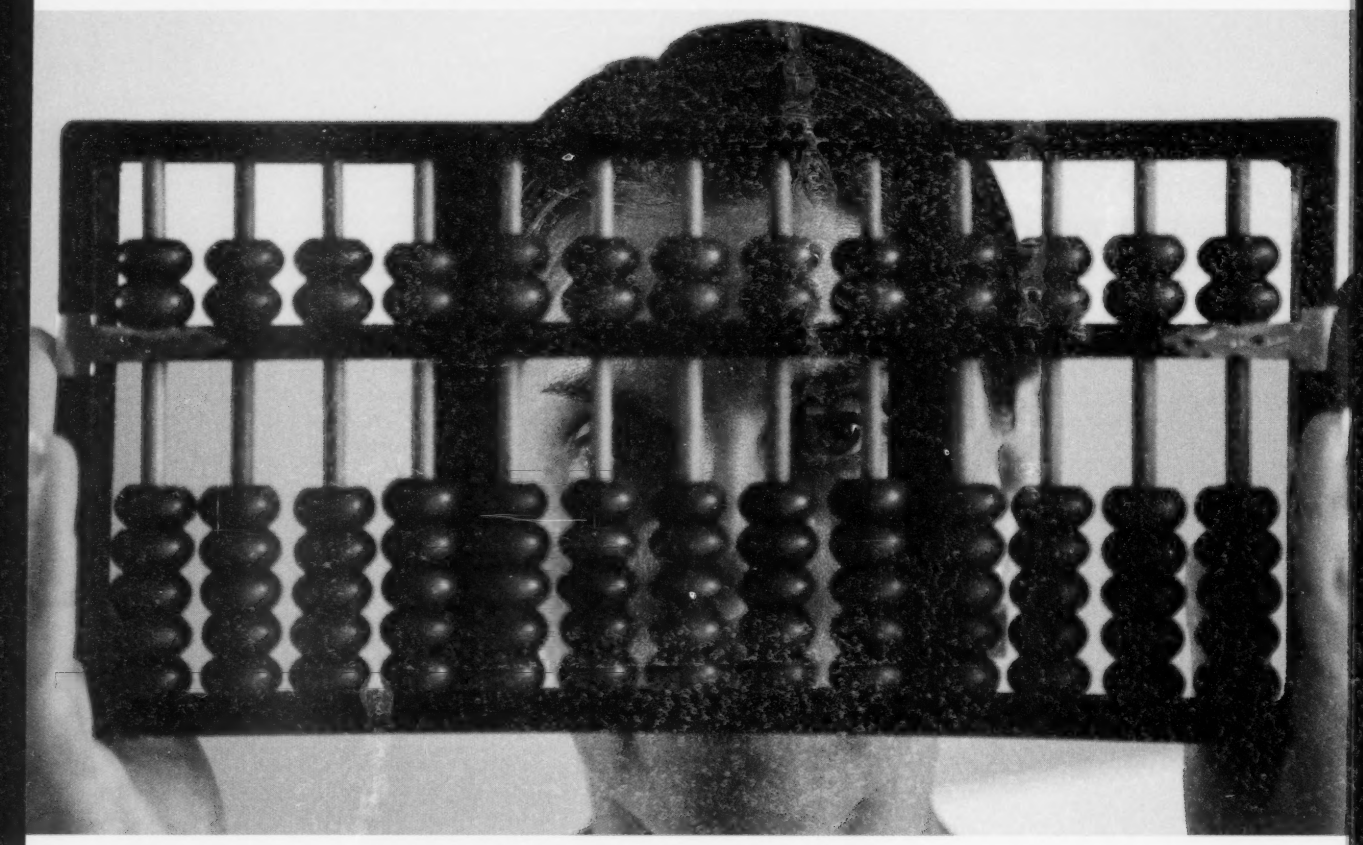

Calculated Risk

IT managers are getting better at using **hard numbers** to score more funds for disaster recovery projects. BY STACY COLLETT

ED RICKS didn't have to manufacture a worst-case scenario to convince executives at Beaufort Memorial Hospital in South Carolina that they needed to boost spending on business continuity and disaster recovery systems.

On his first day as CIO at the hospital, a lightning storm knocked out power. The hospital immediately switched to a generator, but the backup system didn't include power for air conditioning or communications. "Our data center got too warm, and we had to start shutting servers down," Ricks recalls. The hospital also lost communications links to other facilities.

From a CIO's perspective, "It was almost too good to be true for me," Ricks says. "The situation wasn't

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even as bad as it can get, but it showed what could happen. It was really obvious that we had to do something to make sure that we're always operational."

Today, the hospital has a disaster recovery site with real-time data backup. Ricks plans to expand the site's capabilities and add virtual servers by the end of this year. Total cost: about $1 million.

HEALTHY SLICE

Spending on business continuity and disaster recovery represents an average of

6% to 7%

of the overall IT budget.

SOURCE: FORRESTER RESEARCH INC.

For most IT managers, however, it takes more than a well-timed act of nature to convince executives to invest more in business continuity and disaster recovery. It takes a compelling story that's full of the hard numbers that executives appreciate.

In the past, it was hard to make a business case for disaster recovery systems because they were viewed as expensive insurance policies against things that might not happen. But a Forrester Research Inc. report says that's changing because IT managers are getting better at quantifying risks and assessing the impact of a disruption.

"It's more of an art than a science," says Forrester analyst Rachel Dines. "Most executives don't realize how much it costs. We're talking about millions of dollars. So it's really all about how you pitch it."

As the Forrester report puts it: "It's much more likely that a CIO or other executive will approve budget for a [business continuity/disaster recovery] upgrade if you can explain that in the next five years there is a 20% probability that a severe winter storm will knock out power to the data center and cost $500,000 in lost revenue and employee productivity."

So, how can IT managers come up with hard numbers to quantify the need for business continuity and disaster recovery spending? Dines suggests that companies take these steps:

Calculate your annualized risk cost. Make a list of each risk in your geographic area. Next, list the likely number of hours of downtime that might result from outages caused by each of those risks. In a third column, list the percentage chance of such an event happening in a year. Finally, multiply all of that by your hourly cost of downtime to arrive at your *annualized risk cost*.

"That can be a pretty good way of guiding technology investments that can eliminate that risk — such as investing in remote-access procedures for a winter storm," Dines says.

Calculate hourly cost of downtime. Figuring out the cost of downtime can be daunting, because outages have both tangible and intangible costs. Start by calculating the most obvious numbers, like revenue losses or productivity losses for salaried employees who would be unable to work; those are usually the biggest downtime-related costs anyway. Also explore any penalties you'd incur if you weren't able to comply with regulations because your systems were down.

Other consequences — such as a loss of customers, a decrease in customer satisfaction or hits to your company's reputation and employee morale — are harder to quantify; you might try to calculate them by looking at the impact of similar events on your company or a competitor in the past.

At Troy University in hurricane-prone Alabama, Greg Price has a simple goal: "We don't want our services to go down for a second." With 30,000 students in 17 time zones around the globe, the university can't tolerate downtime. So Price, Troy's chief security and technology officer, carefully gathered data to reinforce his argument that the university needed a new remote data center to replace an outdated facility.

He collected 15 years of historical data that showed the probability that certain events — categorized as minor, major or significant — would affect the Troy, Ala., campus. Here's what he found:

- About 75% of Troy's IT service interruptions are considered "minor," meaning service is knocked out for less than two hours, usually due to a power outage or Internet service problem. (Troy had 28 minor events in 2010.)
- Twenty-two percent of the incidents are considered "major," meaning service is disrupted for two to eight hours, often due to construction mishaps or

Regulatory Compliance: Byproduct of a Good Plan

SINCE THE SEPT. 11, 2001, TERRORIST ATTACKS, government agencies and industry groups have issued at least 22 regulations or industry standards to address business continuity and disaster recovery, according to a Forrester Research report. Although many of the programs are voluntary, they nevertheless have prompted some companies to fund additional business continuity and disaster recovery projects.

But companies that make investments just to comply with a regulation or industry standard are missing the point, experts say. "Unfortunately, they really just want to check the box" and spend as little as possible on business continuity in order to be compliant, says Rachel Dines, a Forrester analyst. On the other hand, she says, regulations "at least make people think about it."

Ideally, regulatory compliance is merely a byproduct of a sound business continuity or disaster recovery plan.

"My feeling has always been, if you're making the right business decisions all along, you'll be compliant with those regulations," says Ed Ricks, CIO at Beaufort Memorial Hospital. "It's smart for us as a business to protect our data and know that we've got a good disaster recovery plan — regardless of whether it's mandated by some legislation or not."

— STACY COLLETT

power grid failures. (Troy experienced four major events in 2010.)

■ "Significant" events happen just 3% of the time and include hurricanes, tornados and other acts of nature. Troy experienced only one significant event in 2010 — a winter storm that dumped a foot of snow.

"Based on the information from the 15 years we've been able to gather, we can quickly assess the potential for outages against those metrics," Price says.

Talk to your insurance company. Insurers maintain reams of statistics about likely incidents and their associated costs to get a sense of how risky it is to insure a particular company. Your insurer might be willing to share some of that data.

Check government Web sites. Government agencies will have historical data on events that have occurred in your area. The U.S. Department of Energy, for instance, provides statistics on power outages by location. The Department of Transportation keeps statistics on incidents involving hazardous materials. If you need data about incidents in other countries, one resource is the Web site of EuroStat, the European Union's official statistical agency.

Making the Business Case

Beyond the numbers, IT leaders have been successful in scoring funds for business continuity and disaster recovery projects when the business units and risk management personnel help explain the need in business terms. A survey of 345 *Disaster Recovery Journal* subscribers showed that about 65% of business continuity management teams work with their business units to determine the impact of risk.

Here are more tips for winning over non-IT executives:

Don't say "disaster." Dines avoids using the word *disaster* when talking about business continuity. It's about more than reacting to downtime, she says. Rather, business continuity involves "being proactive to stay always on and always available," she explains, noting that the most common risks are the mundane ones — power failures, hardware failures, software failures, network failures and human errors — and it's easier to calculate the likelihood of one of those incidents than it is to predict a natural disaster.

Explain that being prepared is a competitive advantage. Position disaster recovery or business continuity expenses as necessities. Point out that competitors could make significant gains if your systems go down for a few days, Dines suggests.

Think of more than the basic need for recovery when defining the business value of a project. CIO Gary Kern spent three years making the case for his ideal version of a disaster recovery system at MutualBank in Muncie, Ind. The half-million dollars he eventually received — for a storage-area network with backup at a remote data center — came in small increments as Kern and his team explained to tech steering committee executives the benefits of each element and why each one cost so much.

"Typically, the justification would be more than just recoverability," Kern says. "We also talked about storage management and defined all the pieces and parts that would help beyond just recoverability and made sure those were apparent."

After six years at MutualBank, Kern has learned to tailor his pitch to each executive: "It's a matter of finding the right hot buttons for the right executive. [Include] something for everyone. Then keep it short and understandable to a nontechnology person. They need to be shown the business value within the technology."

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Don't let a crisis go to waste. Ideally, companies make investment decisions based on rational, objective risk assessments, but security and risk professionals know that's not always how it works. Top executives' interest in business continuity and disaster recovery can ebb and flow dramatically, depending on the latest headline-grabbing crisis, according to Jeff Weber, managing director at Protiviti Inc., a risk consulting firm based in Menlo Park, Calif.

Consequently, IT managers may need to exploit the latest catastrophes, pandemics and security breaches to get the attention of senior executives, the Forrester report says. Remember: It was a lightning storm that helped to produce a $1 million investment in disaster recovery improvements at Beaufort Memorial Hospital. ◆

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Base: 1,575 IT budget decision-makers at large enterprises

SOURCE: FORRESTER RESEARCH INC. SURVEY, JUNE 2010

Security Manager's Journal

MATHIAS THURMAN

Getting a Handle on Our Data

Improved data handling should be an easy win for our manager, who is especially excited about IP protection.

THREE MONTHS into my new job, I've had a chance to assess the landscape and establish some priorities. No. 1 will be the way we handle data.

There's a very practical reason for this. Before I arrived, the company had spent a lot of money on a third-party data assessment. The findings were startling, and the CFO expects remediation in short order. I want to capitalize on that.

But at least one aspect of data handling is near and dear to the heart of any security professional: the protection of intellectual property. The other goals of our project to improve data handling — data classification and data retention — are of more interest to Legal; by including them, I can get some traction and some valuable collaboration time with that department. Some wins there should serve the juicier IP protection aspect well.

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As for data retention, I will work closely with our internal counsel and, most likely, a firm with experience in retention law. Various federal and state laws require companies to keep certain documents for specified time periods. We will want to develop a policy and a retention schedule for all the categories of documents that we are required to keep. Next, I will add information on these retention policies to my security awareness training program. And we'll need to ensure that we have a place for storing retained data that can accommodate everything from e-mail messages and attachments to Oracle Financials and PeopleSoft HR documents.

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ROI for IP

With the program to protect our intellectual property, there is a chance that I will be able to expand my staff and security infrastructure. That's because IP protection is one of the few technology initiatives that has the potential to generate real return on investment. Say that an employee who is planning to leave the company e-mails himself the source code for one of our next-generation products before his departure. If he is successful and isn't detected in time, he could sell that code or use it himself in ways that would directly and negatively affect our future revenue.

But there are certain tools that can detect such activity, giving us a chance to stop potential thieves before they can abscond with the virtual goods. I hope to get the go-ahead — and the budget — to deploy them.

To be specific, I am bullish on data leak protection software. I used it at my previous company to detect when intellectual property inadvertently or intentionally left the company network.

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"With a program to protect our IP, I might be able to expand my staff and security infrastructure.

Trouble Ticket

At issue: When a security manager takes on a new job, he has to assess the landscape and set priorities.

Action plan: The first big push will involve data handling, because the CFO is behind the initiative — and because data-handling projects involve the protection of the company's intellectual property, which is always a good idea.

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Career Watch

Q&A

Dennis and Michelle Reina

The co-authors of **Rebuilding Trust in the Workplace** *discuss the effects of the recession on the trust between employers and workers.*

How did the recession affect the U.S. workplace? The Great Recession rocked workplaces everywhere, and the very underpinnings of trust were upended.

According to a recent workplace survey by consulting firm Deloitte LLP, one-third of working Americans say they plan to look for a new job when the economy gets better, and, of this group, 48% cite a loss of trust in their employer as the reason. The hidden "aha"? Even now, when many employees are choosing to stay put, they have "quit." In the absence of trust, they have checked out.

Also, major betrayals in the workplace – from companies mismanaging layoffs to CEOs committing crimes – can, and do, make headlines. They are not the only source of trouble, though. Minor betrayals, such as gossiping, finger-pointing or taking credit for others' work, are more pervasive and erode trust over time. The accumulation of little betrayals becomes a big problem. In fact, according to our research, 90% of employees report that they feel the effects of eroded trust daily.

Why should employers be concerned about the level of trust among employees? When trust in a workplace remains broken, no one wins. Not individuals. Not teams. Not organizations. What's more, the consequences come with a high price. On the "hard" side of businesses, we see major hits to productivity, performance and even profits. On the softer side, we see people lose confidence, commitment and energy. They disengage in a variety of ways for a variety of reasons – most often, a certain level of anger or fear. In interviews with individuals and teams, we hear comments like "I'm just going through the motions" or "We've lost all passion and creativity."

Once trust has been breached, how can it be restored? Trust is fragile. In the workplace, as in life, it will be built and it will be broken – a natural part of human interaction. The key, then, to sustaining trust is to know how to rebuild it again and again.

Whether you have been betrayed, have betrayed someone else or have a role, such as manager or team leader, where you want or need to help others, we recommend a seven-step process, drawn from two decades of research, for healing and rebuilding trust. This seven-step process isn't a silver bullet. It does, however, provide a framework for taking concrete, constructive and compassionate action:

1. **Observe and acknowledge what happened.** Broken trust is often experienced as a loss – the loss of what was or what could have been. Acknowledge that loss and recognize its impact.
2. **Allow feelings to surface.** Give yourself permission to feel your emotions, whatever they may be, and find proper ways to express them.
3. **Get and give support.** Ask for help in recognizing where you're stuck and how you can shift from blaming to problem-solving.
4. **Reframe the experience.** Put the event into a larger context. Look at the big picture, plus consider the personal choices and opportunities in front of you.
5. **Take responsibility.** Own up to what is yours to own, acknowledge the lessons learned, and ask how you can help improve the current situation.
6. **Forgive yourself and others.** Forgiving doesn't mean excusing; it means acknowledging how broken trust has affected you, as well as others, and then releasing yourself from energy-depleting emotions.
7. **Let go and move on.** There is a difference between remembering and "hanging on." You may not forget a betrayal, but you can make a conscious choice to look forward rather than stay stuck in the past.

– JAMIE ECKLE

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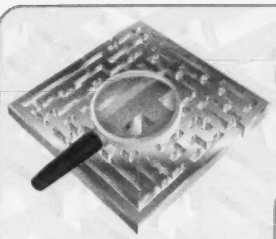
Making Your Résumé Shine

CSO magazine's Joan Goodchild asked a security professional and two security recruiters what security pros should include on their résumés to make them stand out enough to rise to the top of the pile. With just a little tweaking, their advice would seem to be applicable to IT professionals of all stripes.

1. Be a business person first, a security pro second.
2. Distinguish yourself and your "brand."
3. Emphasize accomplishments up high, not education and training.
4. Don't embellish.
5. Consider getting a mentor.



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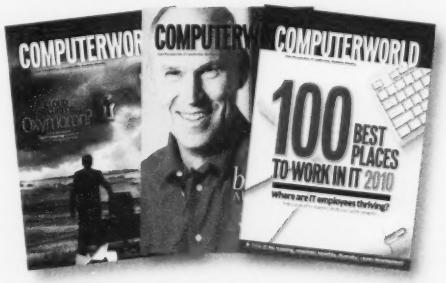

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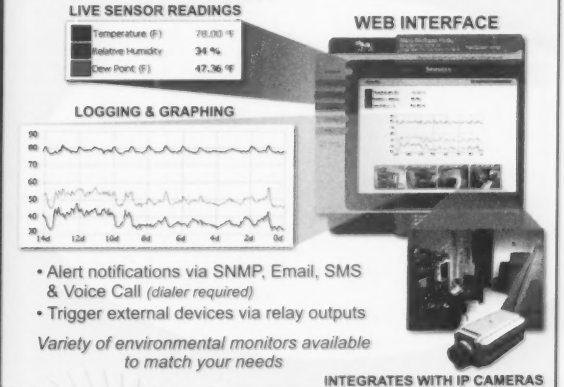

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Accenture LLP presently seeks a SystemSpecialist/TechnicalLodestar Lead in Cincinnati, OH to be responsible for analyzing, designing, coding, and testing multiple components of application code across one or more clients and analyze, design, code,and as required test enhancements to complex modules. The individual will be involved in the maintenance, enhancement and development work of complex modules and those that interface with other applications. In addition, he will be required to participate in pager and on-call support. The individual will work with Application Architects, Business Process Architects, Specialists, and other System Specialists to gather and interpret user and system requirements into design specifications. The System Specialist will develop system specifications and interfaces for complex components. The individual will design and code applications to functional and technical programming standards. The individual will provide primary support towards installation of application releases into production as directed. The individual will coordinate and participate in structured peer reviews and walkthroughs. The individual will plan and execute all required process steps as defined in our methodologies. The individual will create operational documentation for the application. The individual will coordinate the work with other System Specialists on and across applications. The individual will provide application and technical support as required, in a timely manner. The individual will provide input to assist in determining the level of efforts. The individual will also organize and prepare work effectively to facilitate proactive, rather than reactive, resolution of problems. The individual will assist the Client ServiceTeam Manager in monitoring the budget by providing estimated-time-to-complete (ETC) and actuals for assigned tasks.Furthermore, the individual will anticipate, identify, track, and resolve issues and risks affecting the application. The individual will utilize Oracle Utilities tool (Lodestar), Energy Information Platform (EIP), data manager, and billing expert modules of the product and its applications, as well as Oracle PL/SQL, Crystal Reports, Business Objects, and Informatica. Basic Qualifications: The minimum requirements for the offered position are a Bachelorís degree in Computer Science, Computer Engineering, Information Systems/Technology, Electrical Engineering, Electronics Engineering, or an engineering degree with specialized course work in mathematics, programming, computer science/engineering or information systems/technology, plus 5 years of progressively responsible, post-baccalaureate experience in the job offered, or in the Information Technology,Utilities,or Consulting industry. Additionally, the candidate must have professional experience with: (i) Oracle Utilities tool (Lodestar), Energy Information Platform (EIP), data manager, and billing expert modules and its applications to the Utilities industry; and (ii) Oracle PL/SQL,CrystalReports, BusinessObjects,and Informatica. Qualified candidates should apply on line at: http://careers3.accenture.com/jobs/jobs.html and enter the req. # 00112657 in the Job Number Search.

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Hewlett-Packard State & Local Enterprise Services, Inc. is accepting resumes for Services Information Developer in Baltimore, MD. (Ref. #SLBALSID21). Conceptualize, design, develop, unit-test, configure, & implement portions of new or enhanced (upgrades or conversions) business & technical SW solutions through application of appropriate standard SW devlpmt life cycle methodologies & processes. Mail resume to Hewlett-Packard State & Local Enterprise Services, Inc., 5400 Legacy Drive, MS H1-6E-28, Plano, TX 75024. Resume must include Ref. #SLBALSID21, full name, email address & mailing address. No phone calls please. Must be legally authorized to work in the U.S. without sponsorship. EOE.

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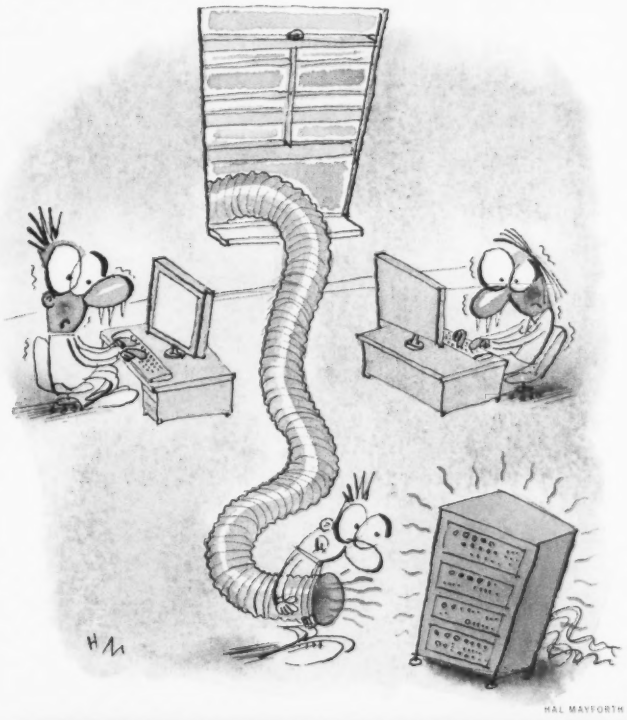

HAL MAYFORTH

Keep Your Cool

Plumbing wholesaler has its data center in a converted office in the middle of a building in New England, where cooling shouldn't be a problem in winter – right? "One sub-zero day in January, I went into the server room and noticed that the temperature was about 85 degrees and rising," says a sysadmin pilot fish working there. "Turns out the compressor on the air conditioning unit froze." Fish sets up a fan and opens doors, but the temperature keeps climbing. It's 20 below outside, and all his systems are overheating. Then he gets a brainstorm: "I got a length of flexible duct from the warehouse – we're a plumbing/ventilating distributor, after all – and ran it from an open window to the computer room. It ended about three feet short of the door, but by turning the box fan around to blow cold air in, we were able to get the room down to 65 degrees in about an hour. Negative-20-degree air will do that. The people who sat near the open window weren't too happy about it until we covered the open area with the box the flexible duct came in."

Keep in Touch

This pilot fish's company wants employees to be constantly available during workdays on the internal instant-message system. "This interferes with doing things like coding, testing, being on the phone and writing reports," fish grumbles, "but my managers really want to see me on there. Trouble is, the system would log me off anytime I went 10 minutes without hitting a key, so I regularly got chewed out." That's until a coworker shows him a trick: Send an IM to anyone. As long as the window is open, the system won't log you off. "How this helps the company is beyond me," says fish, "but I haven't gotten any more management complaints about staying available on the IM system."

Keep Looking

Consultant pilot fish is called in to set up the PCs for a not-for-profit organization that has just split from its parent charity – and it's pretty clear those PCs were on a network. Don't worry about that, the admin at the old office tells fish. We don't use that anymore. "I set up a few of the PCs," says fish. "The users looked at them and shrieked, 'Where are all the documents? Grants? Client documents?' Nothing was stored locally in any accounts. I asked the admin to call the old office and ask for the documents, DVDs, backups, whatever they could get. The old office said they thought the documents were on the PCs, so they threw the server out. Literally, in the Dumpster, several days ago, along with the backup tapes and most likely any other evidence that the organization once existed."

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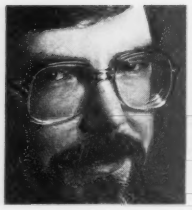

OPINION

FRANK HAYES

Sure the Cloud's Insecure; It's Like Everything Else

WORRIED ABOUT SECURITY IN THE CLOUD? Fret over this instead: Last month, a hacker surfaced who claimed he can sell access to more than a dozen government, military and university Web sites — all cracked easily because of bad programming. Who needs the cloud for lousy security? It's everywhere!

Many programmers don't validate input because, hey, faster is better, right?

Consider whose Web sites were hacked and offered for sale to thieves for less than $500 each: the states of Michigan and Utah. And the South Carolina National Guard. And government agencies in Italy and Albania. And, maybe most disturbing of all, the U.S. Army's Communications-Electronics Command, which does software engineering for battlefield systems. These guys really *should* be getting their programming right.

Oh, it gets worse. The hacker almost certainly hijacked the sites by using a pair of tricks that have been around seemingly forever: SQL injection and buffer overflow. Those attacks don't require an expert black hat — just a script kiddie with some time to kill.

And those attacks are easy to prevent; programmers just have to set things up so that the system makes sure any input to a Web site is valid. If a form asks for a name and the input turns out to be a snippet of SQL code or 5,000 binary bytes, it should be rejected — not passed on to a back-end database.

But validating input requires a little extra code that slows down Web servers just a little bit. As a result, many programmers — and most programming tools — don't do it automatically because, hey, faster is better, right?

That's been the mantra of the IT industry for 50 years. And it's been a curse to almost everything else of value in IT. Security? Reliability? Flexibility? Maintainability? They've all been sacrificed in favor of cheap little tricks that make things run faster.

That's not a coincidence. It's a philosophy — one that infects everyone from programmers and network admins in your IT shop to educators, software and hardware vendors and, yes, cloud vendors too.

After all, the faster the servers run up in the cloud, the more customers the cloud vendor can handle at the same cost. When your profit all turns on efficiency, speed is money.

Security? That's expensive. And you can bet it won't be *more* of a priority to a cost-cutting cloud vendor — whose standard contract probably includes an uptime guarantee but no security-vetting clause — than it ever was in your own data center.

You can't change that "faster *über alles*" philosophy. So if you want security in the cloud, you'll have to force the issue. You'll have to get some security guarantees written into your contracts, including provisions that allow you to do security testing on your own cloud-based applications.

Then you'll have to reinvest some of your savings from going to the cloud into *doing* that security testing. Hire some "ethical hackers" to hammer on your cloud applications, trying to break them, hijack them or find ways inside them. Then keep bringing them back periodically to hammer away again — remember, the cloud is all about constantly moving applications around. What's safe today may be insecure next month.

Does that sound over the top? Maybe — but it's the only way for you to validate security in the cloud.

And if you don't do it, you can be pretty sure that sooner or later, some hacker will find you. ◆

Frank Hayes has been covering the intersection of business and IT for three decades. Contact him at cw@frankhayes.com.

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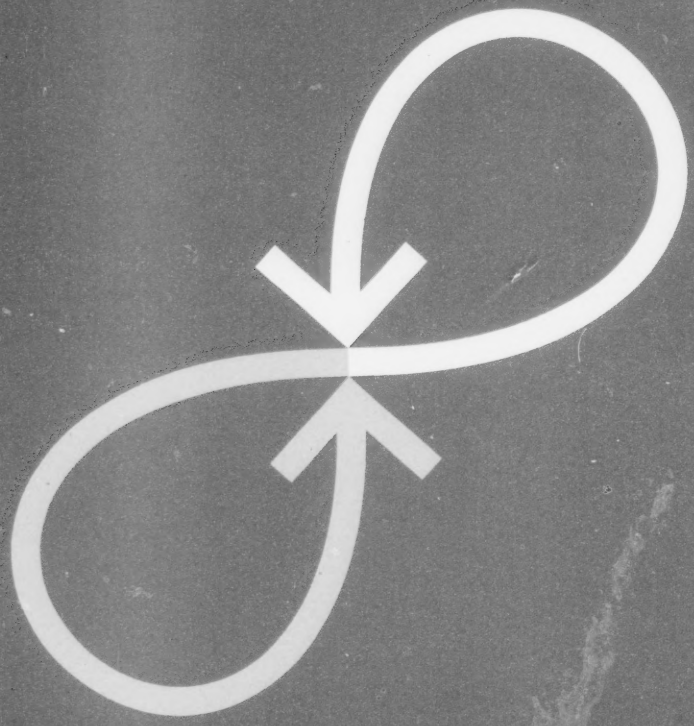

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